

The Cause of the Buddha's Death

The *Mahāparinibbānasuttanta*, the longest text in the *Dīgha-nikāya* (D II 72.1–168.5), contains what seems to be a fairly reliable source for the details of the death of Siddhattha Gotama, the Buddha. It allows readers to follow the story of the last days of the Buddha, beginning a few months before he died (D II 106.19 fol.).

Although the *sutta* portrays the Buddha as a miracle worker, who could have lived up to the end of a *kappa* on the condition that someone invited him to do so (D II, 103.1–15), who determined the time for his own death (D II, 99.7–9; 104.19), and whose death was accompanied by miracles such as the shower of heavenly flowers, sandal powder, divine music (D II, 137.20 foll.) etc., the Buddha is also depicted as an old man, who grumbled about his failing health and growing age (D II, 120.19* foll.), who almost lost his life because of a severe pain during his last retreat in Vesāli, and who was forced to come to terms with his unexpected illness and death after consuming a special dish offered by his host, the smith Cunda (D II 127.5). After the Buddha ate this particular dish, he suddenly fell ill. The name of this dish, *sūkaramaddava*, attracted the attention of scholars, though, in spite of all efforts, the exact significance of this word remains obscure, most likely because it is the name of a very special local dish. The Chinese versions of the *Mahāparinirvāṇasūtra*, investigated also by A. Bareau, indicate that the true meaning of *sūkaramaddava* was soon lost.¹

Although the philological investigations end in a dead alley, the *sutta* also provides medically significant details about the Buddha's symptoms and signs of illness, including reliable information about his medical circumstances over four months previous to his death. All this precious information has attracted hardly any attention.

When the Buddha entered his last rains retreat at Beluvagāmaka, he fell ill (D II 98.26–99.14). The symptom of the illness was sudden,

¹See the appendix.

severe pain, briefly described as so intense that it almost killed the Buddha. The *sutta* does not, however, describe the location or character of this pain.

This part of the story also provides information important to understanding the nature of the Buddha's last illness. For we learn that the Buddha already had a serious illness, symptoms of which recurred and finally killed him; the food he ate was not the only cause of his death.

The Time of the Death of the Buddha

The Theravāda Buddhist tradition adheres to the assumption that the historical Buddha passed away during the night of the full moon in the month of Visākhā (May or June in the solar calendar), the same full moon during which he was born and experienced enlightenment. This date is in contradiction with the information given in the Mahāparinibbānasuttanta which states clearly that the Buddha died soon after the rains retreat, most likely some time between November and January. This date concurs with the description of the miracle of the unseasonable leaves and flowers of the *sāla* trees (*yamakasālā sabbaphāliphullā honti akālapupphēhi*, D II 137,20 fol.), between which the Buddha lay down, because the *sāla* tree blossoms only in March.² This date also has consequences for the interpretation of *sūkaramaddava*. For, autumn and winter are unfavorable seasons for the growth of the mushrooms that some scholars believe were the source of poison in the Buddha's last meal.

Differential Diagnosis of the Illness of the Buddha

The *sutta* tells us that the Buddha felt ill immediately after eating *sūkaramaddava*. Since we do not know anything about the true nature of this food, it is impossible to draw any conclusions from this dish concerning the cause the Buddha's death. But we do know that the onset of the Buddha's illness was rapid. The disease started while eating, so

²Renate Syed, *Die Flora Altindiens in Literatur und Kunst* (München, 1990; Ph.D. thesis, München 1982), pp. 559–71, on *sāla/sāla* (*Vatica robusta*, *Shorea robusta*); on the blossoms, p. 567.

the Buddha assumed that there was something wrong with this unfamiliar delicacy and he suggested to his host that the food be buried (D II 127,21–25). Soon the Buddha suffered severe stomach pain and passed blood from his rectum (D II 127,35 fol.).

Was food poisoning the cause of the illness? Unlikely. The described symptoms do not indicate the typical symptoms, which rarely cause a diarrhea of fresh blood. Bacterial food poisoning usually requires an incubation of two to twelve hours to manifest; only then does diarrhea occur, usually with vomiting but never with passing of blood.

Another possibility is chemical poisoning, which does have an immediate onset. However, it is unusual for it to cause bleeding unless corrosive chemicals such as strong acid were ingested. But such agents would have caused upper gastro-intestinal bleeding with a vomiting of blood, which is not mentioned in the text. Moreover, it is unthinkable that the Buddha's host would prepare a toxic dish for him.

A parasitic contamination in the food can also be ruled out as it would not produce a bloody diarrhea with severe abdominal pain after the meal.

Peptic ulcer diseases can be excluded from the list of possible causes. In spite of the fact that they produce an immediate onset, they seldom occur with acute fresh blood, but rather with black stool. For ulcers higher than the ligament of Treitz, the anatomical border between the upper end of the jejunum and lower end of the fourth part of the duodenum, when there is severe bleeding, it would manifest as a bloody vomiting, not a passing of blood through the rectum. Other evidence ruling against this possibility is that patients with large gastric ulcers usually do not have an appetite. By accepting the invitation of Cunda, we can assume that the Buddha felt healthy for a man in his early eighties. It should also be kept in mind, however, that turning down an invitation would have been a rather severe rebuke of Cunda's good intentions.

Given the Buddha's age we cannot rule out that he did have a chronic disease, such as cancer or tuberculosis or a tropical infection such as dysentery or typhoid, all of which were probably quite common in the Buddha's time and could produce bleeding of the lower intestine. But they are usually accompanied by other symptoms, such as lethargy, loss of appetite, weight loss, growth of a mass in the abdomen, none of which are mentioned in the sutta.

A large haemorrhoid can also cause severe rectal bleeding, but it is unlikely that a haemorrhoid would cause severe abdominal pain unless it is strangulated. But then it would have greatly disturbed the walking of the Buddha to the house of his host, and bleeding from a haemorrhoid triggered by eating a meal is rare.

What disease might be accompanied by acute abdominal pain with the passing of massive fresh blood, commonly found among elderly people, and triggered by a meal? Mesenteric infarction: an obstruction of the blood vessels of the mesentery. Acute mesenteric ischemia is a grave condition with a high morbidity and mortality. Anatomically, the mesentery is a posterior part of the intestinal wall that binds the whole intestinal tract to the abdominal cavity. An infarction of the vessels of the mesentery normally causes a necrosis of a large section of the intestinal tract, which results in a tear and laceration of the intestinal wall. The pathology normally produces severe pain in the abdomen with massive passing of blood. Normally, the patient dies of acute blood loss. The course of this disease most closely matches the information given in the sutta, including that the Buddha later asked Ānanda to fetch some water for him to drink.

As the story goes, Ānanda refused to bring him some water, as he saw no source for clean water (D II 128.20–23). He argued with the Buddha that the nearby river was muddied by a large caravan of carts. But still the Buddha insisted. People suffering from mesenteric infarction crave water due to blood loss (cf. also D II 134.22).

A significant question can be asked at this point: Why did the Buddha not go to the water himself, instead of pressing his unwilling attendant to do so?

The answer is simple. The Buddha was suffering from a shock caused by severe blood loss (cf. D II 128.15–17). Probably he was no longer ambulatory, and from then onward to his deathbed he most likely had to be carried on a stretcher.³ However, this is not mentioned in the text, where it is stated that the Buddha continued to walk (e.g., D II 134.20), until he reached Kusinārā. This, it is generally assumed, was not the intended final destination of his journey, because the description of the road the Buddha took rather points to his native town, Kapilavatthu.

Before passing away, the Buddha told Ānanda that Cunda was not to be blamed and that his death was not caused by eating *sūkaramaddava* (D II 135.19–136.19). This statement can perhaps be interpreted in the following way: The meal was not felt by the Buddha to be the immediate cause of his death. He knew that the symptoms were a recurrence of an illness that a few months earlier had almost killed him. *Sūkaramaddava*, no matter what it was, only triggered his death because of a preexisting condition.

Mesenteric Infarction: The Cause of the Disease and Its Progress

Mesenteric Infarction is a disease commonly found among elderly people, caused by the obstruction of the main artery that supplies the middle section of the bowel, the small intestine. The most common cause of the obstruction is the degenerative change of the wall of the blood vessel, the superior mesenteric artery, giving a severe abdominal pain, also known as abdominal angina. Normally, the pain is triggered by a large meal that requires the higher flow of blood to the digestive tract. As the obstruction persists, the bowel is deprived of its blood

³This question had already worried the commentators: *siniddham bhojanam bhutattā pana tanurvedamā ahosi, ten' eva padasā gantum asakkhi* (Sv 568.26 fol.) “because he had eaten fat food, the pain was small. Therefore, he could walk”. (O.v.H.)

supply; this subsequently leads to an infarction, or gangrene of the section of the intestinal tract, which in turn results in laceration of the intestinal wall and causes profuse bleeding into the intestinal tract and bloody diarrhea. The disease gets worse as the liquid and contents inside the intestines ooze out into the peritoneal cavity, causing peritonitis or inflammation of the abdominal walls. Such complications add to an already high mortality among patients who do not die due to the loss of blood alone. In modern medicine, if the pathology is not corrected by surgical operation, the disease often progresses to septic shock due to the bacterial toxin infiltrating into the blood stream.

Retrospective Analysis

From the differential diagnosis given above, it is most likely that the Buddha suffered from mesenteric infarction caused by an occlusion of an opening of the superior mesenteric artery. This caused severe pain that almost killed him a few months earlier, during his last rains retreat. With the progress of the pathology, a certain proportion of the mucosal lining of his intestine sloughed off, which became the origin of the bleeding site. Atherosclerosis was the cause of the arterial occlusion, a small occlusion that did not result in bloody diarrhea, but did cause the symptom of abdominal angina. The Buddha had his second attack while eating *sūkaramaddava*. The pain was probably not unbearable in the beginning, so he was not sure what went wrong. Suspicious about the nature of the food, he asked his host to have it all buried, so that others might not suffer from it.

Soon, with more pain and the passing of fresh blood, the Buddha realized that his disease was serious. Due to the loss of blood, he went into shock. The degree of dehydration was so severe that he could not maintain himself any longer and had to take shelter under a tree along the way, feeling very thirsty and exhausted. It is probably true that the Buddha got better after taking some drink to replace his blood loss, and some rest.

A patient with shock, dehydration and profuse blood loss usually feels very cold. And this was the reason why he told his attendant to prepare a bed using four sheets of the *saṅghāti* (D II 128,15-17).

After a mesenteric infarction, patients normally live for ten to twenty hours. From the information contained in the *sutta* we are able to estimate that he died about fifteen to eighteen hours after the attack. During that time, his attendants may have tried their best to comfort him. However, it would be highly unlikely that a shivering patient would need someone to fan him as is described in the *sutta* (D II 138,26). This then may be the true reason why the Buddha asked the well-meaning monk Upavāna to step aside, saying that he blocked the view of the gods.

Still, the Buddha may have recovered from a state of exhaustion, which allowed him to continue his dialogues with a few people as recorded in the *Mahāparinibbānasuttanta*. But finally, late in the night, the Buddha died from septic shock due to bacterial toxins and the infiltration of contaminated intestinal contents into his blood stream. This medical history is consistent with the usual course of this illness for a person of the Buddha's age.⁴

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⁴I wish to thank Thawatchai Suksanong, M.D., F.A.C.S, F.I.C.S., and Stanley Terman, Ph.D., M.D., for useful suggestions.

APPENDIX

The Last Meal of the Buddha
A Note on *sūkaramaddava*

As we learn from the above article, the last meal of the Buddha was not the immediate cause of, but contributed only indirectly to his death. A similar view is found, though of course not based on medical considerations, in the later part of the *Milindapañha*. The question raised by Milinda is answered by Nāgasena (Mil 174.9–176.9) stating that *na mahārāja tatonidānam bhagavato koci anuppanno rogo uppanno, api ca mahārāja bhagavato pakatidubbale sarīre khīne āyusañkhāre uppanno rogo bhiyyo abhivaddhi. ... natthi, mahārāja tasmiṁ piṇḍapāte doso, na ca tassa sakkā doso āropetun ti*, (Mil 175.23–176.9) (“It was not from that source [i.e. the last meal], sire, that an illness arose that had not [so far] arisen, but it was, sir, because of the natural weakness of the Lord’s physical frame and because of the waning of the components of his life-span that the illness which arose in him grew so much worse. ... There was no defect, sire, in the alms-gathering and it is not possible to ascribe a defect to it.”).⁵

This is part of a long debate within Theravāda on this section of the *Mahāparinibbānasuttanta*, beginning at a very early date and concentrating on two points. One is the possible fault of Cunda in offering food to the Buddha which seemed to have caused his death, the other is the nature of that very food.

The earliest trace of that debate concerning the second point in the Theravāda tradition is found in the commentary on the *Mahāparinibbānasuttanta*: *sūkaramaddavan ti nātitaruṇassa nātijinṇassa ekajetṭhakasūkarassa pavattamāṣam. tam kira muduñ c’eva siniddhañ ca hoti. tam paṭiyādāpetvā sādhukam pacāpetvā ti attho* (Sv 568.13–17) (“*Sūkaramaddava* means: the fresh meat of an excellent boar, which is neither too young nor too old. For this is soft and fat. Having had it

⁵Trans. by I.B. Horner. This concurs with D II 135.19–136.19 and is emphasized in the commentaries.

prepared means having had it cooked.”). The subcommentary by Dhammapāla explains: *sūkaramaddavan ti vanavarāhassa mudumāṣam. yasmā Cundo sotāpanno, aññe ca bhagavato bhikkhusaṅghassa ca āhāram paṭiyādentā anavajjam eva paṭiyādenti, tasmā vuttam pavattamāṣam. tam kirā ti nātitaruṇassā ti ādinā vuttavisesam. tathā hi tam muduñ c’ eva siniddhañ cā ti vuttam. mudumāṣabhbāvato hi abhisāñkharaṇavisesena ca maddavan ti vuttam* (Sv-pt II 218.9–15) (“*Sūkaramaddava* means: the soft meat of a wild boar. Because Cunda as a Sotāpanna, and others, when they prepare food for the Buddha and for the assembly of monks, prepare only faultless [food], therefore it is called fresh meat. ‘For it is’ [introduces the] qualification expressed by ‘of a not too young, etc.’. And therefore it is called soft and fat. Because of the soft nature of the meat and because of the special way of preparing it, it is called *maddava*.”).

This explanation is supplemented again by Dhammapāla in his *Udāna-āṭṭhakathā* (Paramatthadīpanī I): *sūkaramaddavan ti sūkarassa mudusiniddham pavattamāṣan ti Mahā-āṭṭhakathāyam vuttam. keci pana sūkaramaddavan ti na sūkaramāṣam, sūkarehi madditavāmṣa-kaṭiro ti vadanti. aññe sūkarehi madditapadese jātañ ahicchattakan ti. apare pana sūkaramaddavan nāma tam ekarasāyanan⁶ ti gaṇhiṁsu* (Ud-a 399.23–400.1) (“*Sūkaramaddava* means: the soft, fat, fresh meat of a boar as it is said in the *Mahā-āṭṭhakathā*. However, some say that it is not the meat of a boar, but bamboo sprouts crushed by boars. Others say it is a mushroom growing at a place trampled upon by boars. But others took *sūkaramaddava* to mean an elixir that prolongs life.”).

Similar explanations are also found in the *Sumanāgalavilāsinī*, however only in the Burmese tradition:⁷ *eke bhaṇanti: sūkaramaddavan ti pana muduodanassa pañcagorasyūsapācanavidhānassa nām’ etam yathā gavapānam nāma pākanāmam. keci bhaṇanti sūkaramaddavam*

⁶So read following E. J. Thomas, quoted below.

⁷The following text is printed without further comment in the *Chatṭha-saṅgāyana* edition; Sv (C^e 1918 (Simon Hewavitarne Bequest Series)) states that the text is not found in any of its Sinhalese sources.

nāma rasāyanavidhi, tam pana rasāyanasatthe āgacchati. tam Cundena bhagavato parinibbānam na bhaveyyā ti rasāyanam paṭiyattan ti, (Sv 568, note) (“Some say *sūkaramaddava* is the name of soft rice prepared by cooking a broth with the five products from the cow [i.e. milk, curds, buttermilk, butter, ghee]. This is a name like ‘rice pudding’, a name of a cooked dish. Some say *sūkaramaddava* means some sort of elixir. This, however is the tradition in the science of elixirs. This elixir was prepared by Cunda with the intention that the *parinibbāna* of the Lord should not happen.”).

It is difficult to say whether this text is old or is a later interpolation. The second explanation given here is confirmed by Dhammapāla. Moreover, the word *sūkaramaddava* is quoted by using *nāma*, not by *iti*, which might indicate that this is an old explanation also based on the *Sīhaṭa-āṭhakathā*.⁸

All this evidence shows that during Dhammapāla’s time at the latest the exact meaning of *sūkaramaddava* was completely forgotten. Moreover, we learn that Buddhaghosa’s explanation is based upon the old *Āṭhakathā*. Consequently, this explanation is most likely centuries older than the *Sumaṅgalavilāsinī*.

Thus we are left with four, if not five choices: meat, bamboo, mushroom, a life prolonging elixir, and a drink prepared from milk and rice. Only the interpretations of *sūkaramaddava* as meat and mushroom survived into modern times.

Older European opinions on this word, including, for example, H. Oldenberg, “Eberfleisch”,⁹ and T. W. Rhys Davids, “dried boar’s flesh”

⁸O.v. Hinüber, *Entstehung und Aufbau der Jātaka-Sammlung. Akademie der Wissenschaften und der Literatur* (Mainz: Abhandlungen der sozial- und geisteswissenschaftlichen Klasse, 1998, No. 7), p. 171; and *A Handbook of Pāli Literature* (Berlin, 1996) §§ 249, 261.

⁹*Reden des Budha: Lehre, Verse, Erzählungen* (München, 1922), p. 109 = (Freiburg, 1993), p. 150.

and “quantity of truffles”,¹⁰ are collected by D. G. Koparkar, “Sūkaramaddava” (Poona Orientalist 9 [1944], pp. 34–42). A few years later, but without being able to use Koparkar, E. J. Thomas took up the matter again in his article “Buddha’s Last Meal” (*Indian Culture* [Calcutta] 15 (1948–49), pp. 1–3), discussing the evidence found in the Theravāda commentaries, which only a few years earlier had been discussed already at great length and in great detail by E. Waldschmidt in his *Beiträge zur Textgeschichte des Mahāparinirvāṇasūtra* (Nachrichten der Akademie der Wissenschaften in Göttingen; Philologisch-historische Klasse 1939, pp. 55–94) = *Von Ceylon bis Turfan: Schriften zur Geschichte, Literatur, Religion und Kunst des indischen Kulturaumes* (Göttingen 1967, 80–119, pp. 76 foll. = 101 foll.). Thomas was obviously unaware of this article, most likely due to the breakdown of communication during the Second World War. Nor does he refer to R. O. Franke, who had done almost the same already in 1913.¹¹ Both Franke and Thomas favour “boar’s flesh”, as does the PED. The latest English translation of the *Dīgha-nikāya* by Maurice Walshe (Boston 1987, p. 256) tries to evade controversy by translating “pig’s delight”.¹²

The last Western scholar so far, it seems, to have discussed this matter is G. R. Wasson, “The Last Meal of the Buddha” (JAOS 102

¹⁰*Buddhist Suttas* (Sacred Books of the East, XI; Oxford, 1881), p. 72: “dried boar’s flesh”, but *Dialogues of the Buddha*, Part II (London, 1910), p. 138: “truffles”.

¹¹*Dīgha-nikāya: Das Buch der Langen Texte des buddhistischen Kanons in Auswahl*, R. O. Franke, trans. (Göttingen 1913), p. 222, n. 4.

¹²This translation is not tenable because *maddava* does not mean “delight”. The translation is justified in a long note, where it is said that modern interpreters favoured the translation “truffles”, which is not correct. The preference is rather for “meat” than “mushroom”.

There is, however, a predecessor to Walshe’s translation in K. E. Neumann, *Die Reden Gotamo Buddhos: Die Mittlere Sammlung* (4th ed., Zurich, 1956), p. xxxi (introduction, 1895). “Eberlust”, but “Ebermorcheln” in the translation (1906) of *Die Längere Sammlung* (3rd ed., Zurich, 1957), p. 271.

[1982], pp. 591–603),¹³ who, unsurprisingly, favours the translation “mushroom”.

This opinion is also preferred in the Chinese translation of the Dīrghāgama, which can be found conveniently in A. Bareau, *Recherches sur la biographie du Buddha dans les Sūtrapiṭaka et les Vinayapiṭaka anciens*, II *Les derniers mois: Le Parinirvāṇa et les funérailles*, Vol. I (Paris 1970), pp. 265 foll. This Chinese translation seem to be based on a Sanskrit (or Gāndhārī) word like *candanakarṇa* (*l'oreille d'arbre santal*), which points to a mushroom. Other Chinese translations or parallel texts such as the Mahāparinirvāṇasūtra do not mention any specific meal. Still, it seems implausible to postulate a later addition in the text of the Theravādins and in the Chinese Dīrghāgama on the basis of these parallels. For it is much easier to assume that an old word was either no longer understood properly or was felt to be offensive and was dropped than that there was a late invention of an obscure term such as *sūkaramaddava*.

Moreover, the structure of the section in the Mahāparinibbāna-suttanta where *sūkaramaddava* occurs points to a rather old text, because the preceding prose is summed up in a verse (D II 128,6*–12*).¹⁴

It seems unlikely that a clear and universally acceptable solution of the problem of the meaning of the word *sūkaramaddava* can ever be reached. The oldest available evidence from the old Aṭṭhakathā and the word itself rather points to meat; as pointed out by Waldschmidt, later Buddhists found this interpretation offensive. But it would not have offended the compilers of the Theravāda canon. For the Buddha did accept *sūkaramāṃsa* once: *sampannakolakam sūkaramāṃsam tam me*

¹³Earlier literature is listed in note 1, which supplements Koparkar as quoted above.

¹⁴On this particular text structure: L. Alsdorf, *Die Āryā-Strophen des Pāli-Kanons metrisch hergestellt und textkritisch untersucht* (Mainz: Akademie der Wissenschaften und der Literatur, Abhandlungen der sozial- und geisteswissenschaftlichen Klasse, 1967, No. 4), p. 60, no. 2.

bhagavā paṭigāñhatu ... paṭiggahesi bhagavā (A III 49,21–23) (“Pork with jujube ... may the Lord accept that from me. The Lord accepted”). The commentary explains this as *pakkam ekasāṃvaccharika-sūkaramāṃsam*, Mp III 253,8 fol.

Most likely, *sūkaramaddava* is a genuine old local name of a dish being based on *sūkara* (“boar, pig”) and *maddava*. If so, the meaning of the compound could be lost easily like, for example, the German local dish *Schweinshaxe*, based on standard German *Schwein* and Bavarian dialect *Haxe* (“leg”). As long as a sufficient corpus of standard high German texts survives, one would always understand the first member of the compound, whereas the second one would be liable to fall into oblivion soon, though in this case it is an old Indo-European word related to Sanskrit *kakṣa* and consequently provided with an etymology.

Finally, Theravāda tradition is also concerned with the fact that this particular food can be digested only by a Tathāgata (D II 127,21–25). It may be sufficient here to draw attention to the Kasibhāradvājasutta, which has been discussed by A. Bareau, “La transformation miraculeuse de la nourriture offerte au Buddha par le brahmane Kasibhāradvāja”, in *Études à la mémoire de Marcelle Lalou* (1977) = *Recherches sur la biographie du Buddha dans les Sūtrapiṭaka et les Vinayapiṭaka anciens*, III *Articles complémentaires* (Paris 1995), p. 267–276.¹⁵ In the commentary on this *sutta* similar instances are collected (Pj II 154,1–7): Food to be digested only by a Tathāgata is the *pāyāsa* offered by Kasibhāradvāja (Sn 15,5 cf. S I 168,34), the *pāyāsa* offered by Sujātā (Ja I 68,28), the *sūkaramaddava* offered by Cunda, and the *guṇa* offered by Kaccāna (Vin I 225,17).¹⁶

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¹⁵The accompanying *gāthās* are also discussed by P. Horsch, *Die vedische Gāthā- und Śloka-Literatur* (Bern, 1966), pp. 244 foll.

¹⁶Cf. Mil 231,23 foll.